



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/524,264

02/11/2005

Marco Daher

P70223US0

4112

136 7590 05/27/2009

JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

WIECZOREK, MICHAEL P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

05/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,264	DAHER ET AL.	
	Examiner	Art Unit	
	Michael Wieczorek	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-14,16,17 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

By amendment filed February 26, 2009 claims 1, 3, 10, 12 and 20 have been amended.

Claims 1 through 3, 5 through 17 and 20 through 22 are currently pending.

Response to Arguments

1. Applicant's arguments, see pages 10 through 13, filed February 26, 2009, with respect to the rejection(s) of claim(s) 1, 3, 5-14, 16, 17 and 20-22 under 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art necessitated by the amendments to the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1792

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 3, 5-9 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nasli-Bakir et al (U.S. Patent Publication No. 2002/0015786) in view of Kubota (U.S. Patent # 5,350,600) and Boeck et al (U.S. Patent # 5,111,855).

Nasli-Bakir et al teaches an apparatus for applying a glue mixture (Abstract). The apparatus comprises at least one first glue reservoir from which glue is supplied in the form of storage tanks 4 and 6. The apparatus further comprises glue lines for transporting the supplied glue in the forms of feeding conduits 8 and 10. The apparatus further comprises a plurality of glue valves in the form of valves 24, 26, 40 and 42 that are capable of opening and closing individually so as to control the of the transported glue components. The apparatus comprises a second glue reservoir in the form of spreader pipe 44 that comprises glue outputs for dispensing glue which is coupled a mixer 38 which comprises the glue valves 40 and 42, thus the glue outputs are allocated to the glue valves and the second reservoir 44 is in communication with at least two glue valves. The opening and closing of these valves define the glue profile in that when they are open glue flows into the mixer 38 then into the second reservoir 44 and onto the lamella 46 to coat the substrate thus producing a glue profile and when the valves are closed glue doesn't flow onto the substrate thus producing no glue profile. Furthermore the apparatus is comprised of a third glue reservoir configure as two glue subreservoirs in the form of day tanks 16 and 18 which as shown in Figure 1 are disposed downstream of the first glue reservoirs (4, 6) and upstream from the glue reservoir 44. Furthermore since the glue is pumped from the third glue reservoir (16, 18) to the second glue reservoir 44 by pumps 30 and 32 the reservoir is

Art Unit: 1792

configured to supply the glue to the second glue reservoir in a pressurized state. (Figure 1 and Page 2 Paragraphs 0028-0030).

Though Nasli-Bakir et al teaches a second glue reservoir 44 it does not teach that the second glue reservoir as being configured as four glue subreservoirs each including therein a gas cushion.

Kubota teaches an apparatus for applying a viscous liquid such as adhesives (Abstract and Column 1 Lines 9-15). The taught apparatus comprises a main tank 22 and two sub-tanks 24 which are each connected to the main tank 22 and that the viscous liquid is dispensed from the two sub-tanks. Kubota teaches that the advantage of having two sub-tanks is that two objects can be coated at the same time. (Column 4 Line 64 through Column 5 Line 12 and Figure 7). Thus Kubota teaches having multiple sub-tanks or subreservoirs that dispense a viscous liquid allows for multiple objects to be coated at the same time by the viscous liquid.

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have configured the second glue reservoir to be four glue subreservoirs. Base on the teachings of Kubota it would have been obvious to one of ordinary skill in the art to configure the second glue reservoir or spreader pipe 44 of Nasli-Bakir et al to be four sub-spreader pipes or subreservoirs so that four different lamella 46 can be coated with glue at the same time.

In the case of the gas cushion limitation, Boeck et al teaches an invention related to an apparatus comprising reservoirs holding liquid substances and valves which control the release of the liquid substance from the reservoirs (Abstract). Boeck et al teaches that the reservoirs 1 of the taught apparatus have in them gas cushions which provide constant pressure conditions at the

Art Unit: 1792

valves or dosing valves 4 connected to the reservoirs 1 in order to provide a reliable control of the quantity of liquid released from the reservoirs (Column 1 Lines 56-61, Column 2 Lines 55-66 and Figure 1).

At the time the present invention was made it would have been obvious to one of ordinary skill in the art to include a gas cushion in the second glue reservoirs. Based on the teachings of Boeck et al it would have been obvious to one having ordinary skill in the art to have included a gas cushion in the second glue reservoirs 44 of Nasli-Bakir et al in view of Kubota in order to maintain a constant pressure at the outlets of the second glue reservoirs 44 so as to be able to control the amount of glue released from the second glue reservoirs 44.

As for claim 3, as was discussed above the apparatus taught by Nasli-Bakir et al comprises pumps and valves upstream and downstream of the third glue reservoirs (16, 18), thus the third glue reservoirs is capable of having a higher pressure then the second glue reservoir in that the pumps and valves control the flow of glue in and out of the third glue reservoir and thus control the pressure in that reservoir.

As for claim 5, the second glue reservoir 44 and the third glue reservoir (16, 18) are connected by a mixer 38 which comprises valves 40 and 42 (Figure 1 and Page 2 Paragraph 0028). The mixer 38 is considered to be a pressure regulator because it controls the flow rate of glue into the second glue reservoir 44 and thus controls or regulates the pressure within that reservoir.

As for claim 6, as was discussed above in the claim 5 rejection the pressure regulator or mixer 38 comprises valves 40 and 42 which are configured to start and stop the flow of the glue components into the mixer 38 and thus into the second glue reservoir 44 (Page 2 Paragraph 0028

Art Unit: 1792

and Figure 1 of Nasli-Bakir et al). Since the valves control the flow of the glue components into the mixer and thus the second glue reservoir they are thus configured to open and close the connection between second glue reservoir and the third glue reservoir. Neither Nasli-Bakir et al nor any of the other two references teach that the valves have an opening time and a closing time each being less than 5 ms but based on the teachings of Nasli-Bakir et al it would be obvious for then to do so.

As was discussed above the valves 40 and 42 control the starting and stopping of glue components flowing into the mixer 38 and then into the second glue reservoir 44. Thus the valves determine the time it takes for the coating operation to start (by the valves opening to let the glue components into the mixer 38) and the time it takes of the coating operation to stop (by the valves closing to thus stop the flow of the glue components). Thus it would be obvious to one of ordinary skill in the art that the faster the valves 40 and 42 open and close the faster the coating operation of the apparatus can startup or shutdown. Thus it would be obvious to one of ordinary skill in the art to have valves that can open and close in times less than 5 ms in order to minimize the delay in starting and stopping the coating operation.

At the time the present invention was made it would be obvious to one of ordinary skill in the art that the valves included in the pressure regulator to be able to open and close in a time of less than 5 ms. The quicker the valves 40 and 42 open and close the quicker the coating operation can start and stop.

As for claim 7, as was discussed previously and as show in Figure 1 of Nasli-Bakir et al, provided between the first glue reservoir (4, 6) and the third glue reservoir (16, 18) are pumps 12

Art Unit: 1792

and 14. Since the pumps pump glue components from the first glue reservoir (4, 6) to the third glue reservoir (16, 18) the pumps are configured to deliver the glue in a pressurized state.

As for claim 8, Nasli-Bakir et al does not teach that the third glue reservoir (16, 18) communicate with a pressure reservoir but as was discussed above in the claim 1 rejection based on the teachings of Boeck et al it would have been obvious to one of ordinary skill in the art to provide a gas cushion in a reservoir in order to provide a constant pressure at the outlets of the reservoirs. Boeck et al further teaches that the gas cushion in the reservoir 1 is provided by being in communication with a inert gas container 5 (Column 2 Lines 55-66 and Figure 1), this inert gas container 5 being a pressure reservoir in that is contains pressurized inert gas.

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have the third glue reservoirs communicate with a pressure reservoirs. As taught by Boeck et al by having the third reservoirs of Nasli-Bakir et al communicate with a pressure reservoir in the form of an inert gas canister as gas cushion can be formed in the third glue reservoirs and thus allow for a constant pressure to exist at the outlets of the third glue reservoir.

As for claim 9, since glue flows into and out of the third glue reservoir (16, 18) and fluid flows from an are of high pressure (i.e. the entrance to the third glue reservoir) to an area of low pressure (i.e. the exit of the third glue reservoir) the third glue reservoir (16, 18) thus includes a plurality of glue pressure levels connected in series.

In the case of claim 20, it is rejected for the same reasons discussed in the rejection of claims 1 and 7.

As for claim 21, it is rejected for the same reasons as were discussed in the claim 5 rejections.

As for claims 22, it is rejected for the same reasons as were discussed in the claim 3 rejections.

5. Claims 10-11, 14 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Nasli-Bakir et al in view of Kubota and Boeck et al as applied to claim 1 above, and further in view of Kunkel et al (U.S. Patent # 4,420,510).

The teachings of Nasli-Bakir et al in view of Kubota and Boeck et al as they apply to claim 1 have been discussed previously.

In the case of claims 10 and 11, none of the references teach that the second glue reservoir is in communication with at least one depressurization valve and that this valve can depressurize the second glue reservoir to atmospheric pressure.

Kunkel et al teaches an apparatus for applying adhesive to a substrate (Abstract). Kunkel et al teaches that the apparatus comprises a depressurization valve in the form of slide valve 60 which is in communication with the extrusion head 44 (Column 6 Lines 41-46). This extrusion head 44 being analogous to the spreader pipe or second glue reservoir 44 of Nasli-Bakir et al. This slide valve controls the communication of glue reservoirs or cannels 102 in the extrusion head 44 with the extrusion nozzles 46 which are open to the atmosphere (Column 7 Lines 35-57 and Figure 4), thus the slide valve 60 controls the flow of glue out of the system and onto a substrate. Furthermore, the slide valve 60 can be configured by opening and allowing the

Art Unit: 1792

channels 102 to connect with the extrusion nozzles 46 and thus allow the channels 102 to depressurize to atmospheric pressure.

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have a depressurization valve in communication with the second glue valve. It would have been obvious to add the slide valve 60 configuration of Kunkel et al to the second glue reservoir or spreader pipe 44 of Nasli-Bakir et al in view of Kubota and Boeck et al so as to control the flow of glue out of the spreader pipe 44. Furthermore, since the slide valve controls the flow of glue to the outlets of the spreader pipe 44 and the outlets being open to the atmosphere the slide valve is capable of acting as a depressurization valve which can depressurize the second glue reservoir to atmospheric pressure by opening up the connection to the outlets which are open to the atmosphere.

As for claim 14, none of the references teach that second or third glue reservoirs have pressure meters provided.

Kunkel et al teaches that the taught apparatus comprises a pressure meters in the form of pressure sensor 42 provided with the extrusion head 44 (Column 6 Lines 26-30, Figure 2). This pressure sensor 42 allow for the measuring of the adhesive entering the extrusion head 44 by way of the valve 41 (Column 8 Lines 25-29 and Figure 2).

At the time the present invention was made it would have been obvious to provide a pressure meter with the second reservoir. As taught by Kunkel et al by providing a pressure meter with the second glue reservoir or spreader pipe 44 of Nasli-Bakir et al the pressure of the fluid entering the reservoir can be monitored and thus it can be determined if the glue has enough pressure to provide a desire flow rate out of the reservoir and onto a substrate to be coated.

As for claim 16, though the apparatus of Nasli-Bakir et al teaches a vessel or bucket 50 for collecting waste (Page 2 Paragraph 0030 and Figure 1) which is in communication with the second glue reservoir 44 it does not that the apparatus comprises either a glue discharge line or a cleaning medium discharge line.

The apparatus of Kunkel et al glue and cleaning medium discharge lines and a vessel which is in communication with the extrusion head 44 (Column 6 Lines 51-61, Figure 2). The glue and cleaning medium discharge lines allow for the flushing and cleaning of the extrusion head 44.

At the time the present invention was made it would have been obvious to include glue discharge and cleaning medium discharge lines. By adding glue and cleaning medium discharge lines to the apparatus of Nasli-Bakir et al in view of Kubota and Boeck et al the spreader pipe 44 can be properly flushed and cleaned as taught by Kunkel et al.

6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nasli-Bakir et al in view of Kubota and Boeck et al as applied to claim 1 above, and further in view of Kunkel et al and in further view of Boger et al (U.S. Patent # 4,687,137).

The teachings of Nasli-Bakir et al in view of Kubota and Boeck et al as they apply to claim 1 have been discussed previously. None of the references teach a glue discharge system configured to discharge the glue from the second glue reservoir without the glue passing through the glue valves which define a glue profile by opening and closing.

Kunkel et al does teaches that the apparatus comprises a glue discharge system which comprises a glue recirculation line in the form of line 69 and return line 72 which conveys the

Art Unit: 1792

glue from extrusion head 44 to adhesive holding tank 10 (Column 6 Lines 62-68 and Figure 2).

This allows for the recycling of glue left in the extrusion head 44.

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have ad glue discharge system in the form of a glue recirculation line to convey glue from the second glue reservoir to the first glue reservoir. By incorporating the glue recirculation line and return line of the apparatus of Kunkel et al with the apparatus of Nasli-Bakir et al in view of Kubota and Boeck et al unused glue in the second reservoir or spreader pipe 44 can be returned to the first glue reservoir (4, 6) with out having to recollect any wasted glue from the bucket 50.

Though Kunkel et al provides teachings that allow for the glue to be discharged from the second glue reservoir directly into the first glue reservoir it does not however explicitly teach an embodiment capable of controlling the glue flow without flowing glue through a plurality of glue valves that define a glue profile by selectively opening and closing such at the valves 40 and 42 of Nasli-Bakir et al as described above in claim 1.

Boger et al teaches a adhesive dispensing system comprising a plurality of valves, referred to in the reference as dispensing valves 70, 72, 74 and 78 which can be used to form a glue profile based on the selective opening and closing of these valves (Column 1 Lines 6-10, Column 8 Lines 50-68, Column 9 Lines 1-11 and 51-62 and Figure 1 and 2).

Thus based on the teachings Boger et al it would have been obvious to one of ordinary skill in the art at the time the present invention was made that by placing valves at the outlets for the spreader pipe or second glue reservoir 44 of Nasli-Bakir et al a glue profile can be formed on a substrate based on the selective opening of each of these valve. It would be obvious to one of

Art Unit: 1792

ordinary skill in the art that by selectively opening and closing the valves attached to each outlet a glue profiles can be formed by the taught apparatus pertaining to what type of substrate is to be coated.

Thus for the purposes of claims 12 and 13, Nasli-Bakir et al in view of Kubota and Boeck et al in further view of Kunkel et al in further view of Boger et al teach an apparatus comprising a plurality of glue valve allocated to glue outputs of a second glue reservoir which selectively open and close to define a glue profile (this taught by Boger et al) and further comprises a glue discharge system configured to discharge glue from the second glue reservoir to the first glue reservoir (this taught by Kunkel et al) without the glue passing through the glue valves taught by Boger et al.

7. Claim 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Nasli-Bakir et al in view of Kubota and Boeck et al as applied to claim 1 above, and further in view of Cone et al (U.S. Patent # 3,965,860).

The teachings of Nasli-Bakir et al in view of Kubota and Boeck et al as they apply to claim 1 have been discussed previously. None of the references teach that the first glue reservoir includes a glue agitator.

Cone et al teaches an apparatus for applying glue to a substrate (Abstract, Column 1 Lines 10-15). The apparatus taught by Cone et al comprises a first reservoir in the form of a unit 14 which comprises an inline mixer meaning that the unit 14 has an agitator or mixing component that can mix the ingredients that form the glue (Column 2 Lines 63-68, Column 3 Lines 1-2 and Figure 2). Cone et al teaches that the advantage of having the first reservoir or unit

Art Unit: 1792

14 comprise a inline mixer is that glue is freshly mixed and has a constant age when it reaches both the foaming unit and the surface to be coated (Column 3 Lines 3-11).

At the time the present invention was made it would have been obvious to one of ordinary skill in the art to include within the first reservoir of Nasli-Bakir et al in view of Kubota and Boeck et al an agitator or inline mixer as taught by Cone et al so that the glue or adhesive that is applied to the substrate is fresher than glue that would have been sitting in a holding tank or storage tank. As taught by Cone et al, freshly mixing the glue within the first reservoir allows for consistent age and quality of the glue that is being foamed and applied to the substrate.

Conclusion

Claims 1, 3, 5 through 14, 16 through 17, and 20 through 22 have been rejected. Claims 2 and 15 have been withdrawn as being related to non-elected species. No claims were allowed.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1792

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wieczorek whose telephone number is (571)270-5341. The examiner can normally be reached on Monday through Friday; 7:30 AM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571)272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MPW/

/Michael Wieczorek/
Examiner, Art Unit 1792

Application/Control Number: 10/524,264
Art Unit: 1792

Page 15

/Timothy H Meeks/

Supervisory Patent Examiner, Art Unit 1792